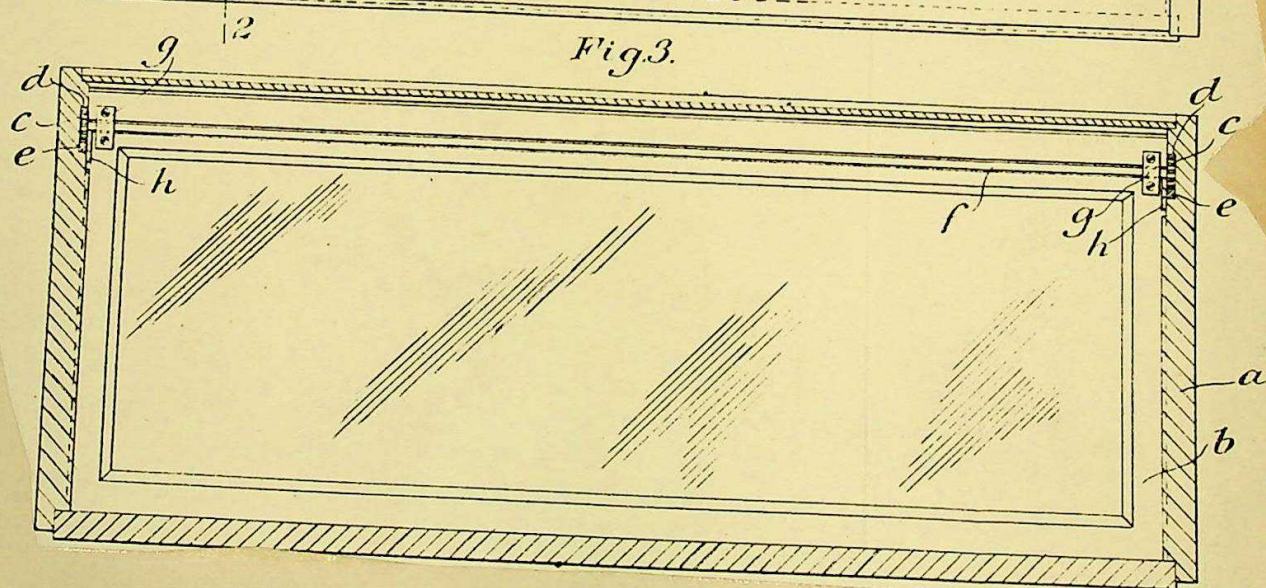


*Fig. 1.*





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Fig.2.

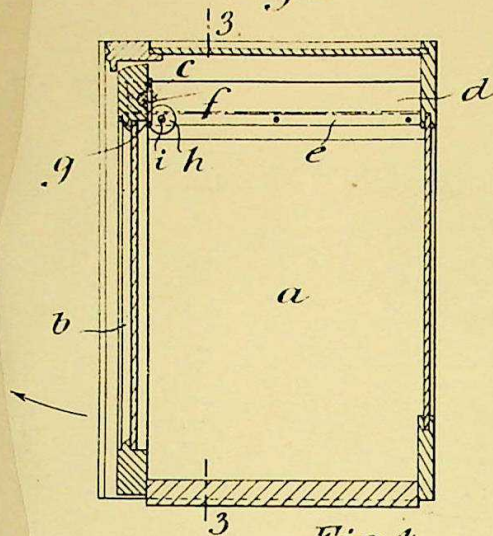


Fig.4.

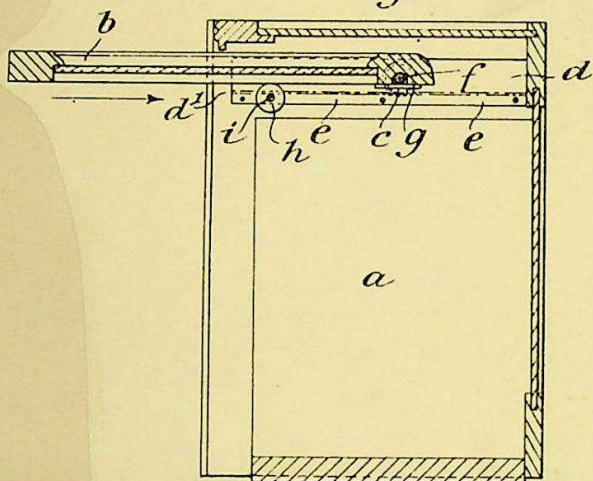
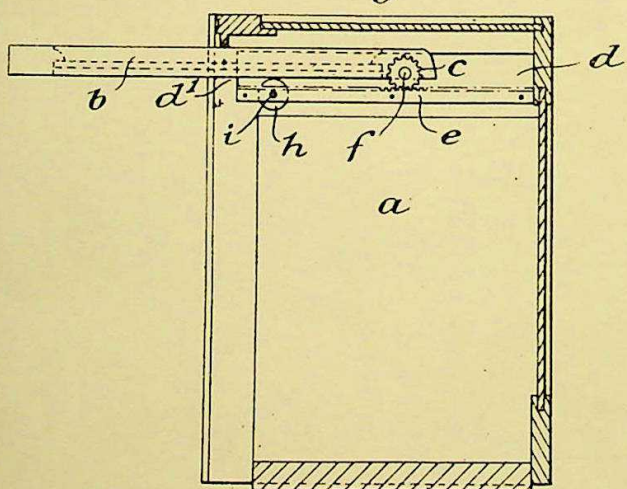


Fig.5.





# PATENT SPECIFICATION



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Complete Accepted: Sept. 9, 1926.

257,859

312-189

## COMPLETE SPECIFICATION.

### Improvements relating to Sliding Doors, Shelves and Drawers for Book-cases and other Articles of Furniture.

I, ROLAND EUSTACE, British subject, of 201, Mare Street, Hackney, London, E. S., do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to sliding doors, shelves, drawers for bookcases and other articles of furniture, of the kind in which the movements of the two sides thereof are equalized to prevent them from binding when being moved into and out of their supports or guides by providing them at each side with a toothed wheel or pinion rolling above, and maintained in mesh with, a toothed rack on the side of the case or body, both wheels being connected together rigidly by a shaft mounted in bearings on the door, shelf, drawer or the like, and, in which anti-friction rollers are provided close to the front ends of the racks on which the door bears in its horizontal movement.

With sliding doors etc., of this kind it has been proposed to maintain the wheels in gear with the toothed racks by arranging the ends of the shaft carrying the toothed wheels in grooves in the sides of the case or body, the racks themselves being applied to the inner surfaces of the said sides. This arrangement, however, possesses the disadvantage that it is necessary to cut away the sides of the sliding door or the like to avoid the said wheels tracks.

The object of my invention is to obviate such cutting away of the sliding door or the like and to this end I arrange the racks and pinions within the grooves in the sides of the body or case.

In a suitable arrangement for carrying out the invention in connection with the hinged and horizontal sliding door of a section of a sectional book-case, the

toothed wheels or pinions are arranged to run in horizontal grooves, the bottoms of which are formed by the toothed racks. The shaft of the wheels is located behind or beneath the door near its upper or inner edge. The door hinges or turns around the common axis of the said wheels when moved from the vertical or closed position to the open or horizontal position. The racks and pinions may be made of metal or other suitable material such as vulcanized fibre.

To enable the invention to be fully understood I will describe it by reference to the accompanying drawing, in which:—

Figure 1 is a front elevation of a section of a sectional book-case, the door of which is provided with means, in accordance with the invention, for preventing its two sides from binding in its supports or guides, the said door being shown in the vertical or closed position.

Figure 2 is a sectional on the line 2—2, Figure 1.

Figure 3 is a section on the line 3—3, Figure 2.

Figure 4 is a view similar to Figure 2, but showing the door in the horizontal or open position and

Figure 5 is a view similar to Figure 4 but with the door in elevation.

*a* is the case or body of the book-case section and *b* is the door therefor.

*c* is the toothed wheel or pinion of metal or fibre arranged at each side of the door *b* and *d*, *d* are the grooves in the case or body *a* in which the said wheels are designed to run and which are closed at the front ends as at *d*<sup>1</sup> to prevent the door being withdrawn from the said grooves. *e*, *e* are the racks of metal or fibre forming the bottom of the said grooves, on which the said wheels *c*, *c* are supported and with which they mesh. *f* is the shaft by



which the wheels *c, c* are rigidly connected, and *g, g* are the bearings on the back or underside of the door *b*, in which the said shaft is journaled. *h, h* are the anti-friction rollers pivoted at *i, i*, close to the front ends of the racks *d, d* on which the door *b* bears in its horizontal movement.

By the described construction it will be seen that in the closed position of the door *b*, indicated in Figures 1 and 3, it pivots or hinges around the axis of the shaft *f*. When, however, the door is opened or turned on the said hinge in the direction of the arrow, Figure 2, to the horizontal position, it can be moved back into the case *a* in the direction of the arrow, Figure 4, without its sides binding against the bottoms of the grooves *d, d* owing to the fact that the meshing of the wheels *c, c* with the rack maintains the said sides in parallelism with the said bottoms of the grooves.

Although the invention has been described in connection with the sliding

doors of sectional book cases, it will be obvious that it can also be used in connection with other sliding objects, for instance, shelves and drawers.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A sliding door, shelf or drawer of the kind hereinbefore referred to wherein the racks and pinions are arranged within the grooves in the sides of the body or case.

2. The improved book-case constructed, arranged and operating as hereinbefore described and illustrated in the accompanying drawing.

Dated this 28th day of April, 1926.

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